

ANTARCTICA NZ

Agency Boosts Satellite Bandwidth for Scientists in Antarctica and Achieves ROI in Four Months Using Expand Accelerators



IN SUMMARY

- Return on investment within four months
- Clear gains in application and web response times
- 150% increase in concurrent Citrix users supported by the WAN
- Savings of \$24,000 per year through effective 8kb bandwidth increase

TECHNICAL OVERVIEW

- Average bandwidth increases of 100-400 per cent
- QoS ensures applications running unimpeded on the WAN
- Improved monitoring and management of network traffic

PROFILE

Antarctica NZ is the New Zealand Crown Entity responsible for managing Scott Base, New Zealand's Antarctic research station. Located on Ross Island in the Ross Sea region of Antarctica, Scott Base is nearly 4,000 km from Christchurch, New Zealand and 1,500 km from the South Pole. Antarctica NZ supports the scientific community that uses Scott Base, providing logistics and event planning as well as day-to-day operations.

THE CHALLENGES

Scott Base is highly dependent on its Telecom NZ satellite connection for links back to the rest of the world. Mike Mahon, Antarctica NZ's IT administrator explains; "The scientists and technicians at the base share scientific data and correspond daily with colleagues back in New Zealand and other countries."

Antarctica NZ relied on Net Enforcer, a bandwidth management tool, to enhance the performance of the satellite-based WAN. However, as problems on the WAN continued, the organisation realized that bandwidth management by itself was not a solution. "With residents and visitors so far from home, it is not enough to just prioritise network traffic," said Mahon. "Often access to webmail and news sites from home is as important as uploading scientific research to an FTP site." The organisation was also running its Microsoft Dynamics logistics application within a server-based Citrix environment. This meant that the permanent site staff was highly dependent on the performance of the WAN to perform their daily jobs.

THE SOLUTION

Knowing that WAN optimisation would improve the experience for everyone at Scott Base, Mahon investigated a number of options including Expand Networks, Packeteer and Exinda. Expand's Australian team provided Antarctica NZ with a local

"The data speeds we are experiencing are markedly improved, and are now really rather impressive for a 7,600 km round trip just to reach the internet connection! "

Mike Mahon, IT Administrator, Antarctica NZ

WEB LINKS

- Learn about Expand Networks at www.expand.com
- Learn more about Expand's products at www.expand.com/products
- Learn about WAFS and Server Consolidation Solutions at www.expand.com/products.

APPLICATION

- *Citrix*
- *Web browsing*
- *SMTP email*
- *FTP*
- *RDP*

Christchurch contact in channel partner Datacom Systems. After some trials and a satellite simulation, Mahon made his choice; "Expand performed fantastically in the trials – I didn't want to send the trial units back! The trials proved what I had expected – if Expand's kit was good enough for NASA and space communications, it would be perfect for the Antarctic environment."

Antarctica NZ is using the Expand 4820 to maximise its 64/256K frame relay satellite connection from Telecom NZ. Accelerators use low latency, lossless techniques that work on all applications to consistently deliver average bandwidth increases between 100 per cent and 400 percent. Expand's Quality of Service (QoS) enforcement also ensures that applications run unimpeded on the WAN. This is not just prioritisation, but also includes sophisticated algorithms to combat congestion.

THE RESULTS

Since implementing the two Expand Accelerators, Antarctica NZ has seen an effective increase of 8Kb in the bandwidth available across the WAN. Worth \$2,000 per month, this capacity increase has had a noticeable impact on the user experience at Scott Base.

Mahon comments; "Expand's clever combination of compression, acceleration and caching has considerably reduced our latency issues, both within Citrix and with web browsing. Despite a 600ms latency on our satellite link, the data speeds are markedly improved! Saving \$2,000 per month on 8Kb in effective additional bandwidth also gave us an ROI in just four months."

With the WAN optimised, Antarctica NZ has seen a 150% increase in the number of concurrent Citrix sessions that the WAN can support.

Expand's web caching support has also given visitors to the base closer links to what they call "the real world". Mahon explains: "Scott Base is a long way from normality for a lot of our visitors and accessing news and favourite social networking sites can make the experience a lot less isolated. Looking to the future, Mahon is confident that the Expand Accelerators will continue to meet the needs of the base; "Now that the accelerators are installed in our network any bandwidth updates we need to make are issued by Expand as a software key. This may seem petty, but for a remote site, cut off from the world from March to September each year, this makes managing our systems so much easier!"

LEARN MORE

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